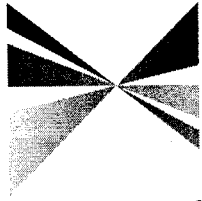


SOUTHERN CALIFORNIA



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Riverside County Transportation Commission:
Robin Lowe, Hemet

Ventura County Transportation Commission:
Keith Millhouse, Moorpark

5/29-5/24/05

MEETING OF THE

TRANSPORTATION CONFORMITY WORKING GROUP COMMITTEE

Thursday, September 22, 2005
3:00 p.m. – 4:30 p.m.

SCAG Offices
818 W. 7th Street, 12th Floor
Riverside A Conference Room
Los Angeles, California 90017
213.236.1800

If members of the public wish to review the attachments
or have any questions on any of the agenda items,
please contact Ted Harris at 213.236.1916 or
harrist@scag.ca.gov

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TRANSPORTATION CONFORMITY WORKING GROUP INTERAGENCY CONSULTATION

AGENDA

			PAGE #	TIME
1.0	<u>CALL TO ORDER</u>	Ty Schuiling, SANBAG		
2.0	<u>WELCOME AND INTRODUCTION</u>	Ty Schuiling, SANBAG		
3.0	<u>PUBLIC COMMENT PERIOD</u> Members of the public desiring to speak on an agenda item or items not on the agenda, but within the purview of this committee, must fill out a speaker's card prior to speaking and submit it to the Staff Assistant. A speaker's card must be turned in before the meeting is called to order. Comments will be limited to three minutes.			
4.0	<u>CHAIR'S REPORT</u>	Ty Schuiling, SANBAG		
5.0	<u>ACTION ITEMS</u>			
5.1	<u>Approval of the August 23, 2005 Meeting Summary Attachment</u>	Ty Schuiling, SANBAG	1	
6.0	<u>INFORMATION ITEMS</u>			
6.1	TCM Replacement Attachment	Paul Taylor, OCTA		30 minutes
6.2	<u>2007 AQMP Update</u>	Eyvonne Sells, SCAQMD		5 minutes
6.3	<u>TCM Update Attachment (online)</u> http://www.scag.ca.gov/tcwg/index.htm	Ted Harris SCAG		5 minutes
6.4	<u>Information Sharing</u>	Group Discussion		
7.0	<u>ADJOURNMENT</u>	Ty Schuiling, SANBAG		



TRANSPORTATION CONFORMITY WORKING GROUP INTERAGENCY CONSULTATION

AGENDA

The next Southern California Transportation Conformity Working Group will be held on Thursday, October 25, 2005 at SCAG offices.

Please provide 30 copies of materials you would like to distribute at the meeting. If you have any questions, please contact **Cathy Alvarado, (213) 236-1896 or e-mail alvarado@scag.ca.gov**.



Transportation Conformity Working Group

Interagency Consultation

Meeting Summary

Tuesday, August 23, 2005
10:00 AM – 12:00 PM

Southern California Association of Governments
818 W 7th Street, 12th Floor
Los Angeles, CA 90017
Riverside 'A' Conference Room

The Transportation Conformity Working Group (TCWG) held its monthly meeting on Tuesday, August 23, 2005 at SCAG's downtown offices. The following minutes are intended to summarize the matters discussed. An audio recording of the entire meeting is available for review at SCAG's office.

1.0 CALL TO ORDER

The meeting was called to order at 10:04 AM by Douglas Kim, MTA.

2.0 WELCOME AND SELF-INTRODUCTIONS

ATTENDANCE:

In Person:

Naresh Amatya, SCAG
Rosemary Ayala, SCAG
Grace Balmir, FHWA/FTA
Eric Carlson, MTA
Meenu Chandan, CALTRANS
Herman Cheng, MTA
Ashad Hamideh, MTA
Ted Harris, SCAG
Douglas Kim, MTA
Jessica Kirchner, SCAG
Philip Law, SCAG
Betty Mann, SCAG
Nancy Marroquin, MTA
Laleh Modrek, Caltrans
Travis Seawarde, MTA
Arnie Sherwood, ITS/UCB
Carla Walecka, TCA
Sean Yeung, Caltrans

Via Teleconference:

Mike Brady, Caltrans Headquarters
Ben Cacatian, VCAPCD
Joe Cassmassi, SCAQMD
Paul Fagan, Caltrans District 8
Kathryn Higgins, SCAQMD
Sandy Johnson, Caltrans District 11
Steven Loebeck, RCTC
Jean Mazur, FHWA

Johnthan Natler, SCAQMD
Karina O'Connor, EPA Region 9
Christopher Patton, City of LA
Lisa Poe, SANBAG
Dennis Wade, ARB

2.0 PUBLIC COMMENT PERIOD

There were no public comments at this meeting.

4.0 CHAIR'S REPORT

There was no report at this time.

5.0 ACTION ITEMS

5.1 Approval of the April 26, 2005 Meeting Summary

It was noted that on page 1 that the spelling of Nancy Marroquin's last name was incorrect and on page 5, under Adjournment, the ending time of the meeting had a typo error.

Motion was made to approve the minutes with the amendments, then unanimously approved.

6.0 INFORMATION ITEMS

6.1 2006 Regional Transportation Improvement Program (2006 RTIP) Guidelines (Rosemary Ayala, SCAG)

Rosemary Ayala, SCAG, presented an update on the 2006 RTIP Guidelines. The purpose of the guidelines is to facilitate the work of the commissions and IVAG, Caltrans, and transit operators in the development of the RTIP project listing and in the submittal of the county TIPs which are due to SCAG in December 2006.

The guidelines do not include any new policy. They are a compilation of existing SCAG policy and Federal and State requirements. The main purpose is to ensure the project listing fulfills the legal, administrative, and technical aspects of the RTIP process. Furthermore, the guidelines help minimize duplicate efforts by the various agencies involved in the process.

The draft will go to the Transportation and Communications Committee on September 1, 2005 for their approval to release. We should note that the guidelines include a provision that continues the Executive Director's authority to sign off on amendments that do not require conformity determination.

Any comments from the TCWG committee were requested to be submitted by September 12.

Douglas Kim, MTA, inquired as to whether the TIPs would now be every four years because of the new SAFETEA-LU provision. Jean Mazur, FHWA, stated that she believe the State requirement for the TIP was every two years, she asked if the State would be changed to be consistent with the federal? Ms. Ayala responded that we need further discussions.

6.2 2007 RTP Update (Naresh Amatyia, SCAG)

Naresh Amatya, SCAG, presented an update on the 2007 RTP. Mr. Amatya stated the discussions of an accelerated schedule for the RTP have concluded and are not going to be taken up any longer. The new SAFETEA-LU bill extends the update cycle for the RTP to 4-years from the current 3-years. We hope to discuss flexibility to apply the 4-year cycle with the federal agencies.

Over the next several months, staff will assess the inventory of projects that we will look at in developing the RTP, including unconstrained projects. Staff has been assessing the high priority list in SAFETEA-LU.

The question was raised as to whether once the STIP fund estimates come out, will that lock down the conventional revenue forecast for the RTP itself? Mr. Amatya responded that the RTP would be consistent with the STIP fund estimates through the 2010 time frame, but beyond that staff will need to use additional assumptions to estimate the revenue for the entire Plan period which will go through 2030.

6.3 Reauthorization Update (Grace Balmir/Jean Mazur, FHWA)

Grace Balmir, stated two major items that would impact the metropolitan and statewide planning rule, one being the Long Range Plan and the TIP going to a 4-year cycle. She expressed that she felt the major issue for our region is do we want to do a 4-year Plan and TIP? If this is what SCAG would like to do, she requested that the agency send the FHWA a letter requesting that FHWA allow MPOs to apply the 4-year conformity cycle to existing RTPs.

Annie Sherwood, ITS/UCB, asked whether the FHWA felt that the current RTP implementation date of July 1, 2007 could be extended one year? Reason being, it is an awkward year for the TIP and if the TIP and the RTP should be on the same cycle, 2008 would be a better year. Ms. Balmir stated that because our conformity lapses on that RTP in June 2007, she said SCAG would need FHWA guidance to extend another year. Jean Mazur, FHWA, reiterated Ms. Balmir's point that until there was guidance we would not be sure how the changes are going to be interpreted.

Ted Harris, SCAG, stated that there may be substantial benefits for Southern California from applying the 4-year cycle in SAFETEA-LU to current transportation plans. If FHWA has discretion to interpret the application of SAFETEA-LU's 4-year conformity provision to allow the flexibility to apply the 4-year conformity cycle to existing transportation plans, this change offers an opportunity to better coordinate transportation and air quality planning. The new 8-hour ozone standard requires us to submit new ozone State Implementation Plans (SIPs) by June 15, 2007. Under the old 3-year cycle, the conformity status of Southern California's 2004 Regional Transportation Plan (RTP) would expire on June 16, 2007, the day after the SIPs are due to EPA. With this schedule, the US EPA would not have time to determine that the new on-road emissions budgets are adequate, and new emissions budgets would not be able to be used for the conformity determination for the next RTP update. If, however, US DOT, in coordination with US EPA, applies the 4-year cycle to existing transportation plans, then we would have the flexibility to use new adequate budgets based on the new federal standards in the next RTP.

Currently we have budgets based on a previous set of assumptions. As we develop the new SIP it would be ideal if we could develop a conformity determination on the new RTP based on the new model, the new assumptions. From aligning the schedule standpoint it would be a huge benefit if we could apply the 4-year conformity clock to the existing clock that is ticking. We would then have adequate budgets from EPA that we could use for the 2008 RTP.

Ms. Balmir, responded that the guidance developed by FHWA and FTA will be for the entire country. Ms. Balmir stated that her personal viewpoint was that this would be the perfect time

for this region to state what their issues are pertaining to the State of California, and, to voice them to FHWA and FTA to see how they can accommodate you at this time, because once they implement their policies it will not be as easy to do. EPA staff was in agreement Ms. Balmir's response.

Ms. Balmir continued her presentation on the subject of the TIP. She stated that the entire TIP will be good for four years. Currently, although we approve the TIP for 3-years we still have select projects from the third year to use the monies and implement that project in the first year. For the new TIP we will not have to do that, the region can simply modify the project and it will not have to come back to FHWA and FTA for approval. We can simply modify the project out of the fourth year and bring it into the first year. This should decrease the number of amendments.

Ms. Balmir mentioned the change in consultation for the long-range plan. The state and the regions must now consult with land use management, natural resources, environmental management protection, conservation, and historic preservation agencies during the development of the RTP. Ms. Balmir noted that RTP mitigation activities must now be included in the RTP. Another item that will affect FHWA and FTA to a greater degree is that we will be doing certification reviews every four years instead of three years.

California will now rely more on the State Congestion Management Program, which was overlooked in the past since the State of California requires Congestion Management Program to be done by the County Commissions. Generally we accepted that SCAG and the MPO's considered CMP in their TIP and RTP, but SAFETEA-LU is raising the importance of CMS and its consistency with the intent of federal rules. In addition, SAFETEA-LU also states that all single occupancy vehicle new projects will have to go through the Congestion Management Program to be included and approved in the new TIP and Plan.

Jean Mazur, FHWA, stated that one of the conformity changes was to change the requirement that conformity of existing transportation and plans must be re-determined no later than two years after a budget is found adequate. If the SIP is approved, it establishes budgets that were previously found adequate, or SIP approval that establishes revised budgets. This changes the eighteen months to two years to give us a bit more time. The other change is that the conformity should be demonstrated for the final year of the plan but there are circumstances under which through inter-agency consultation you can decide to do something shorter. The conformity determination still needs to include a Regional Emissions Analysis for the last year's transportation plan.

Ms. Mazur went on to state that another change was in the conformity lapse that provides that a lapse will not occur until twelve months after an applicable deadline. We will need guidance on this and the planning implications period. Another change was for the conformity SIP, it now only needs to include the consultation procedures. The final provision, the conformity rule is that regulations to implement the changes no later than two years after the enactment.

Ms. Mazur added that she had received a question in regard to the provision that CMAQ can be used for the purchase of diesel retrofits that are for motor vehicles or non-road vehicles and non-road engines using construction projects located in ozone or particular matter non-attainment areas. Ms. Mazur stated that she felt this put into law what we have already been implementing in guidance through the January 2004 guidance on diesel retrofit. It was pointed out that there was a link on the FHWA website in the reauthorization section and into the conference section there is a link to the actual conference language.

6.4 PM 2.5 Inventories Guidance (EPA Staff)

Karina O'Connor, EPA, stated that the guide went over different options that can be used for annual inventory. A couple of problems for our area is the guide does not focus on EMFAC users.

Training will be given in September in Sacramento. The FHWA, EPA and ARB will be giving presentations and will talk about use of EMFAC to do annual and daily inventories.

The guidance also points out that more simplified procedures can be used before the SIP inventories are actually developed, but once the SIP is developed the conformity analysis should follow the same procedure as the SIP.

6.5 2007 AQMP Update (SCAQMD)

Joe Cassmassi, SCAQMD, stated that they were currently in the developmental stages, most of the work has been technical it has been dealing with converting some of the software onto different computer platforms and other efforts to will enable us to more efficiently use more sophisticated models. South Coast is waiting for EMFAC2007 to come out. Until it does, we are not able to do the more intense modeling to get validated episode runs.

Dennis Wade, ARB, stated that EMFAC 2007 is under development. The high priority items at this point are to incorporate and discuss the heavy-duty diesel truck VMT estimates with the Southern California region and work out the activity estimates, also finalizing heavy-duty diesel emission factors. In the meantime we do not have a new public release date for EMFAC, and we are aware that a lot of modeling activities are dependent upon that piece of software. Adjustment factors will be produced to get a handle on where the inventories will likely end up.

Douglas Kim, MTA, inquired as to which version of the AQMD update version of impact would be used? Dennis Wade, ARB, replied that using EMFAC2002 in any future SIP is not an option.

Arnie Sherwood, ITS/UCB, stated that if EMFAC2007 was not issued soon, adjustment factors will be needed for the registration data. The DMV files in particular because that is becoming obsolete under the FHWA guidance. Dennis Wade, stated that the Board currently has a paper submitted to FHWA and US EPA under review dealing with that specific issue.

6.6 PM 2.5 Conformity Process (Ted Harris, SCAG)

Ted Harris, SCAG, reported a proposed process to make a conformity determination for the new fine particle (PM_{2.5}) standard. Overall the process for the conformity determination for PM_{2.5} will be similar to the process used for 8-hr Ozone. The key point is that SCAG has to receive approval from the US DOT on SCAG's conformity determination on the 2004 RTP and the RTIP by April 5, 2006 or the region risks a conformity lapse.

The final PM_{2.5} rule requires PM_{2.5} non-attainment areas to consider direct PM_{2.5} emissions and significant precursor emissions. Prior to the submission of the proposed PM_{2.5} SIP/Air Quality Management Plan, direct PM_{2.5} emissions and NOx emissions must be considered in PM_{2.5} conformity determinations. Additional PM_{2.5} precursors could be included if determined by interagency consultation.

The process is to discuss the overall approach today, get feedback, come back to this group no later than October, and then take the proposed draft determination to SCAG's EEC committee in November to release for 30-day public comment period. We expect to have a hearing in early December and have the Regional Council adopt the resolution and make the conformity determination in February 2006. We will then send it to FHWA and the other

federal agencies for review and approval before April 5, 2006.

6.7 TCM Update (Ted Harris, SCAG)

Ted Harris, SCAG, stated that the 2006 RTIP guidelines has a section on the TCM process. The goal is to provide comprehensive, clear guidance on the TCM process in the applicable 1994 SIP and the proposed 2003 SIP. The guidelines clarify how a TCM type project, facility or program becomes a committed TCM. In summary, if a project meets the definition (HOV lane or pricing alternative or a transit project where there's expansion or improvement—but not operation or maintenance or replacement of busses, etc.) and the project has implementations funds programmed for the first two years of the prevailing RTIP or an amendment, then the project is a committed TCM. Furthermore, at that point that the TCM-type project becomes committed, the completion date at that point is the date that that project has to be built or it could cause a conformity lapse.

A few months ago we prepared a matrices that attempted to categorize the three hundred plus projects that have been identified as TCMs in the RTIP database. We then evaluated the project description and the implementation funding to verify that TCMs are in fact committed TCMs. After going through of the three hundred, it appeared that about numerous projects were not actually committed TCMs. For this reason, we can not over emphasize the importance of a common understanding of the TCM process and correctly entering information into the RTIP database.

Mike Brady, Caltrans, inquired as projects that are partly TCMs. Ted Harris, SCAG, replied that there is language in the new 2006 RTIP Guidelines that clarify that to monitor implementation of TCMs, we need information on the TCM portion.

Ben Cacatian, VCAPCD, asked about a voluntary program in Ventura. Ted Harris, SCAG, responded that we should explore credit in the 2007 SIP, but it did not sound like a TCM.

6.8 Information Sharing (Group Discussion)

FHWA reminded the committee that the PM 2.5 workshop is going to be held in Sacramento ARB office on September 15. It was doubtful that Web casting would be available for the workshop.

The Statewide Conformity Working Group meeting will be held September 22nd, 10:30 a.m. – 3:00 p.m. at SCAG.

7.0 ADJOURNMENT

The meeting adjourned at approximately 11:45 AM. The next meeting of the Southern California TCWG will be **Thursday, September 22nd at 3:00 p.m.** at SCAG, directly after the Statewide TCWG meeting.

Orange County Transportation Control Measure Replacement

Presented to

**SCAG Transportation Conformity Working Group
Interagency Consultation**

Submitted by

**Paul Taylor
Executive Director
Planning, Development and Commuter Services
Orange County Transportation Authority
550 South Main Street
Orange, CA 96184**

September 22, 2005

Orange County Transportation Control Measure Replacement

I Introduction

Orange County Transportation Authority plans to replace two existing Transportation Control Measures (TCMs) with new TCM projects that together provide equivalent or greater emission reductions, while meeting all TCM substitution requirements specified in Appendix IV-C of the 1994 and 2003 South Coast Air Quality Management Plan/State Implementation Plan.

Two independent replacements will be discussed in this technical report:

Centerline. Replace the 8-mile Centerline light rail project with a combination of four projects. :

- 28-mile mixed flow Bus Rapid Transit from Brea Mall to Irvine Transportation Center
- Metrolink Service expansion providing enhanced service between the Inland Empire and Orange County
- Irvine Business Center Shuttle connecting John Wayne Airport to Irvine Business Center
- Free 3+ HOV on the 91 Express Lanes, from SR 55 to the Orange County/Riverside County line.

Yorba Linda Station. Replace the Yorba Linda Station project as a TCM with the Fullerton Station Parking Structure project.

The following report presents the criteria for TCM replacement that apply to Centerline and the Yorba Linda Station TCMs. Further the report includes a description of each TCM project to be replaced, the need for replacement, the implication of the replacement on the Regional Transportation Plan and Regional Transportation Improvement Program, and a description of the proposed replacement project. The technical analysis for each replacement presents emissions data for the original and replacement TCMs.

II TCM Replacement Procedures and Requirements

Replacement of Centerline and Yorba Linda Station with new TCMs must follow the substitution protocol specified in the federally-approved Air Quality Management Plan/State Implementation Plan (AQMP/SIP).

Transportation Control Measures are contained in Appendix IV-C of the AQMP/SIP. The TCM replacement process is also spelled out in this appendix to the 1994, 1997 and 2003 AQMPs; USEPA formally approved the replacement process in the 1994 AQMP/SIP.

The TCM Replacement section describes two circumstances in which TCM's must be replaced. First, projects are routinely updated and replaced when a new RTIP is approved. Second, "a specific TCM project may be found to be non-implementable within the designated time frame and a new TCM project is substituted." (Appendix IV-C, page 12). The AQMP specifies procedures for replacing individual projects such as Centerline and the Yorba Linda Metrolink Station:

- The CTCs and/or project sponsors shall notify SCAG when a TCM project cannot be delivered or will be significantly delayed.
- SCAG, CTC or project sponsor can propose a substitute measure.
- Prior to adopting an individual TCM substitution, the measure must have been subject to interagency consultation (via the TCWG), public review and comment period and emissions analysis.
- The replacement measure must be subject to the SCAG Regional Council review and adoption.
- Upon adoption by the Regional Council, the new measure will replace the previous measure and will be incorporated into the RTIP through an administrative amendment.
- Adoption by SCAG's Regional Council will rescind the previous TCM and apply the new measures.

Proposed replacement projects must also meet specific criteria:

- The substitution of an individual measure must provide equivalent or greater emissions reductions than the measure being replaced in the AQMP/SIP.
- The substituted measure should preferably be located in the same geographic area and serve the same demographic subpopulation as the TCM it is replacing.

- A substitute measure must be fully funded and implemented in the time frame established for the measure contained in the SIP.
- The substitute measure must be fully implemented within two years of the implementation date of the original measure in order to meet the test for a finding of timely implementation.
- There must be evidence of adequate authority under State or local law to implement and enforce the measures.
- Commitments to implement the substitute measures must be made by the agency with authority for implementation.
- Advancement of a future TCM project may not be used to replace an existing project.
- The analysis of replacement measures must be consistent with the methodology used for evaluating measures in the Air Plan.
- Where emissions models and/or transportation models have changed since those used for purposes of evaluating measures in the attainment plan, both the previous TCM and the new TCM shall be evaluated using the latest planning assumptions and modeling techniques in order to demonstrate consistency with the current Air Plan .

Source: 2003 South Coast Air Quality Management Plan, Appendix IV-C, pages 13-14.

Sections III and IV of this report include summaries of the Centerline and Yorba Linda Station replacement TCMs' fit with each of the requirements established by the AQMP.

III Centerline TCM Replacement

Centerline TCM Description

On October 22, 2001, the OCTA Board of Directors approved an 18-mile Centerline rail transit alignment between the Irvine Transit Center and the Santa Ana Regional Transportation Center.

On July 21, 2003, the OCTA Board of Directors reduced the Locally Approved Alternative project length to 8 miles. The 10-mile segment of Centerline was formally replaced by three projects that together provide equivalent emission reductions within the same timeframe and geographic area. The replacement project package consisted of

- An 8-mile Centerline project connecting John Wayne Airport and Santa Ana Transit Center/Metrolink-Amtrak Station;
- Intracounty rail services to cover the area where the 10-mile Centerline segment was deleted; and
- Upgraded bus service providing 402 new weekday bus trips in the deleted portion of the Centerline corridor, including runs from John Wayne Airport to UC Irvine.

This replacement was completed after interagency consultation with federal, state and local agencies through SCAG's Transportation Conformity Working Group. SCAG's longrange Regional Transportation Plan (RTP) and six-year Regional Transportation Improvement Program (RTIP) were revised accordingly and approved by the Federal Highway Administration.

Thus, the current Centerline project in the RTP and RTIP is an 8-mile portion of the original 18-mile light rail line TCM from John Wayne Airport to the Santa Ana Transit Center. The Centerline project alignment is indicated on Maps 1 and 2.

Need for Centerline Replacement. The 8-mile Centerline project is designated as a Transportation Control Measure (TCM) in the 2003 Air Quality Management Plan. As a TCM, the commitment to build Centerline by 2010 can be eliminated only if projects with equivalent emission reduction benefit replace it in the RTP, RTIP and AQMP.

Centerline must be replaced at this time because funding shortfalls prevent the project and its emission benefits from being delivered by 2010 as required by the AQMP. Centerline funding is drawn from three sources: Orange County's 1/2-cent sales tax, Measure M, which provided seed money for a "starter system," and state and federal funding.

OCTA sought federal appropriations for Centerline in FY 2004/2005. Given the prospect of a lack of a federal funding commitment essential to delivering the project, in February 2005, the OCTA Board paused Centerline implementation in order to identify and study options for replacing Centerline. Again, OCTA sought FY 2005/2006 funding through SAFETEA-LU, but the federal transportation bill was ultimately approved without a Centerline funding earmark.

While the state funding earmark was obtained, anticipated federal funding for the Centerline project has not been, and will not be, forthcoming in a timeframe that allows delivery of the project and associated emission reductions by 2010 as required by the AQMP.

Therefore, the OCTA Board formally directed staff to pursue alternatives to Centerline, and to identify substitute projects that meet the criteria for TCM replacement spelled out in the AQMP. In addition, the Board directed that replacement projects be constrained with funds under OCTA's control to insure delivery of the replacement projects by 2010.

Failure to replace the Centerline project would lead to a lapse in timely implementation of TCM-01, which in turn would jeopardize continued federal approvals and funding for all other projects in the RTP and RTIP.

Implications of Centerline Replacement for 2004 RTP and 2004 RTIP. At present, the 8-mile Centerline project is included in the 2004 Regional Transportation Plan and 2004 RTIP as follows:

ORA 194	Central Orange County Fixed guideway (Centerline) for construction from Santa Ana Transportation Center to John Wayne Airport. Includes rolling stock for Initial operating segment.
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At the conclusion of the interagency consultation process, OCTA will request that SCAG amend the 2004 RTP and 2004 RTIP to remove the remaining Centerline project description, and designate the replacement projects as TCMs. OCTA will submit the appropriate changes to SCAG by October 12, 2005, for inclusion in 2004 RTIP Amendment #10. The replacement projects will be carried forward into the 2007 RTP update now being developed by SCAG.

The replacement projects will also subsequently be included in annual TCM Timely Implementation Reports that SCAG submits to FHWA to demonstrate that the projects are being implemented on time in fulfillment of the AQMP TCM requirements.

Centerline Replacement Project Identification. Working with the OCTA Board's Transit Planning and Operations Committee, OCTA staff has analyzed thirty-four potential replacement projects with the potential to provide equivalent or greater emission reductions than the Centerline and Yorba Linda Station projects. The options include:

- The current project, the 8-mile Centerline alignment between John Wayne Airport and Santa Ana Transit Center/Metrolink-Amtrak Station.
- Other light transit rail
- Bus Rapid Transit, expanding the BRT system from two current lines to 3 or more lines.
- Commuter rail, increasing Metrolink service frequency and/or new locations.
- Gateways to regional connections, including the MagLev system, California High Speed Rail, and the California/Nevada High Speed Train
- Other transit projects, such as additional investment in the OCTA bus system
- Road projects. and
- 3+ HOV requirements for the 91 Express Lanes.

During six work sessions, the Board's Transit Planning and Operations Committee determined that no single replacement project was available. The Committee investigated six "packages" of projects with the potential to replace Centerline. The Committee also defined a seventh package of projects for further analysis that included countywide Bus Rapid Transit; increasing Metrolink service; and high speed rail and MagLev system investments.

Recommended Centerline Replacement Project Package

OCTA requests that the 8-mile Centerline TCM be replaced with a package of four projects that meet the TCM replacement criteria set in the AQMP/SIP. All three capital projects are currently included in the 2004 conforming RTP. Although each project meets the eligibility criteria for TCM status, none is currently designated as a TCM. The replacement projects are indicated on Maps 1 and 2, along with the Centerline alignment.

Bus Rapid Transit. This project provides a 28-mile BRT line extending from Brea Mall to Irvine Transportation Center. This line follows portions of the original Centerline alignment, and builds on the existing BRT network in Orange County. The BRT project will cost \$36.9 million for structures and rolling stock.

Metrolink Service Expansion. This project provides enhanced service on Orange Inland Empire –Orange County line and 91 line, and will cost \$115.1 million.

Irvine Bus Center Shuttle. CNG-fueled shuttle vehicles will connect John Wayne Airport to Irvine Business Center, one of the County's and the region's major employment concentrations. The project will cost \$12.3 million.

Free 3+ HOV on the 91 Express Lanes. Free access to the 91 Express toll lanes will be provided to 3+ carpools, from SR 55 to the Orange County/Riverside County line. The 91 Express Lanes relieve congestion on one of the most impacted freeways in the Southern California region. This operational change will not require any capital investment.

Technical Analysis

This technical analysis documents the evidence that the Centerline replacement TCM meets the substitution criteria spelled out in the AQMP/SIP: equivalent emissions, similar geographic service area, similar implementation schedule, and demonstrated financial commitment to complete the project on time.

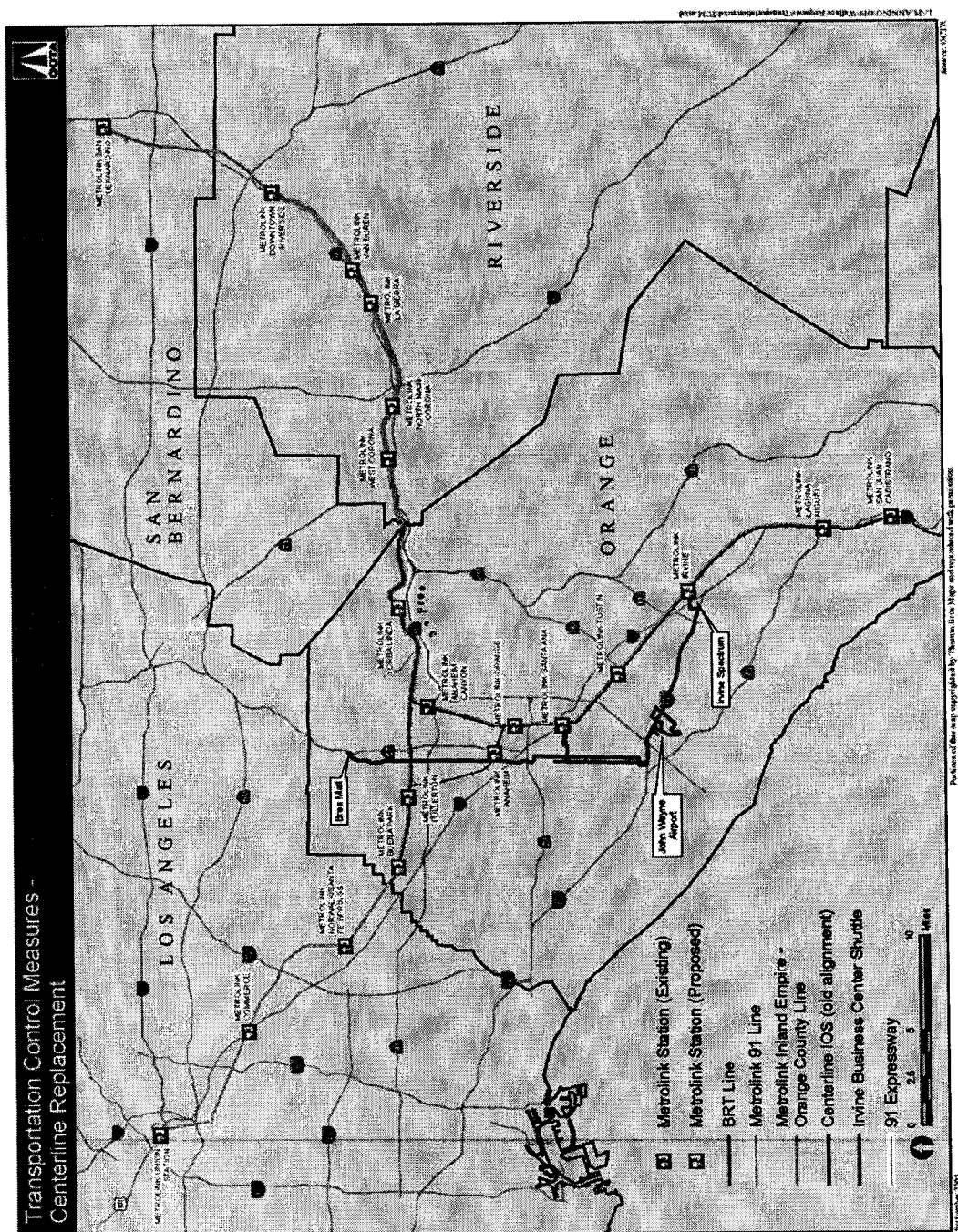
Methodology for Analyzing Original Project and Replacement The air quality impacts of the 8-mile Centerline TCM were compared with the proposed TCM Replacement projects using a 2-step method based on SCAG's emissions program focused on Orange County. OCTA's OCTAM 3.2 travel demand model, which is consistent with SCAG's regional model, provided travel information on the Centerline and replacement TCMs.

Step 1: Obtain daily vehicle miles traveled (VMT) and speed data for freeways, arterials and transit bus from OCTAM 3.2. Extract all loaded link information, intrazonal travel speeds, and intrazonal travel volumes for all modeled time periods.

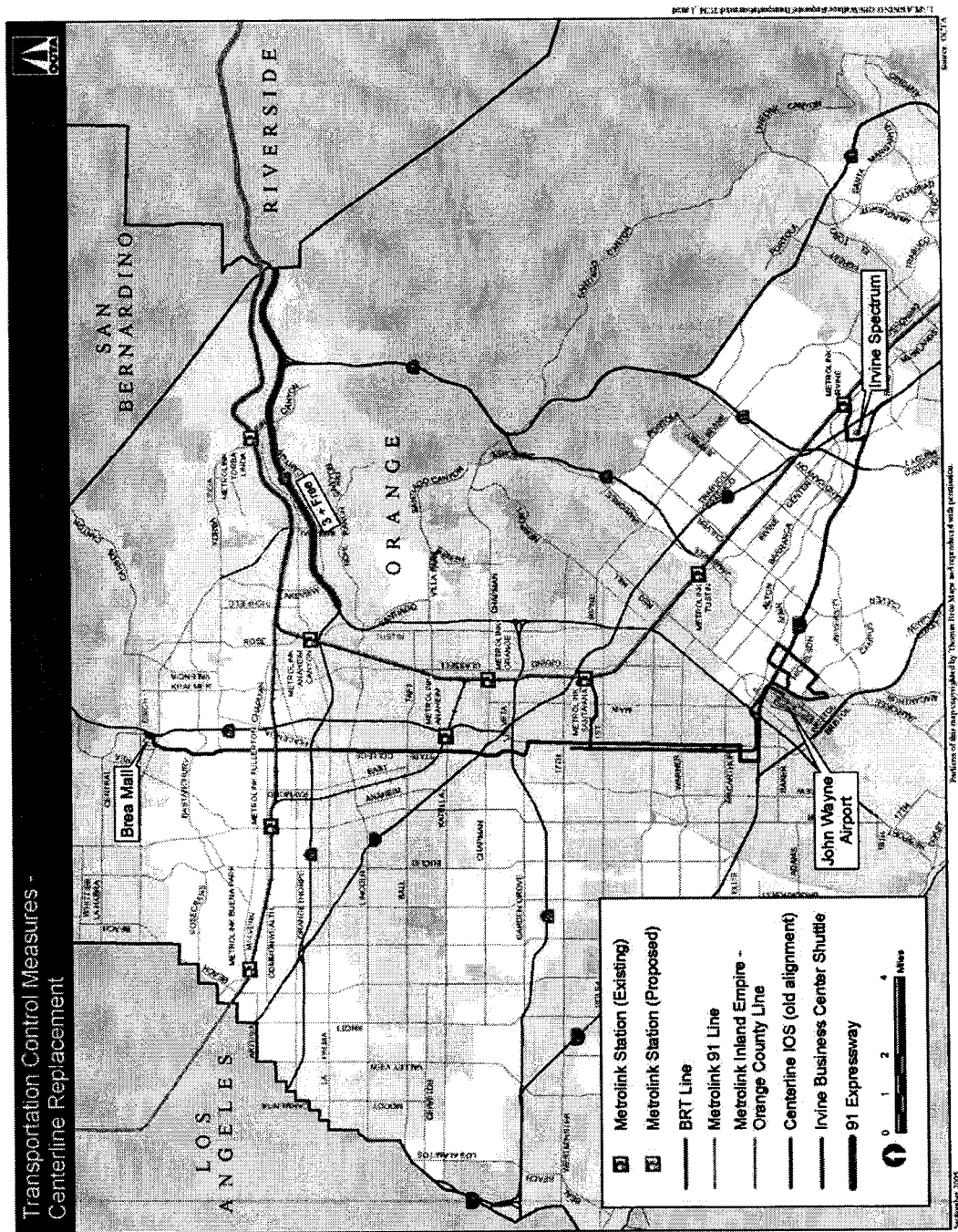
Step 2: Run SCAG emissions program using the extracted information from Step 1 as input to obtain vehicle starts, VMT, and vehicle population data. The result of this program is an EMFAC2002 input file for Orange County reflecting the model run. This program outputs emissions exhaust for ROG, NOx, CO and PM-10 pollutants by running EMFAC 2002. The additional emissions resulting from added bus and train service as part of each alternative are calculated and included in the overall emissions estimates.

The modeling assumes that 2010 intracounty train equipment will be ultra-low emission diesel engines and average 35-45 mph while the bus equipment will be CNG engines and average 25-35 mph.

Map 1



Map 2



Emission Analysis. Based on the results of the modeling described above, Tables 1 and 2 compare the Centerline TCM and proposed replacement TCM projects total emissions for 2010 and 2030. The emissions data demonstrate that the replacement project package provides equivalent or greater emission reductions for Orange County than the current Centerline project.

Geographic Area/Service Area/Accessibility. The 8-mile Centerline TCM provided intra-county light rail service between John Wayne Airport/Irvine and Santa Ana Regional Transportation Center. Map 1 depicts the service area of the Centerline TCM and the proposed Replacement TCM projects.

The replacement Bus Rapid Transit (BRT) route parallels and intersects the original Centerline alignment, providing accessibility to the same population in the same service area as Centerline. By expanding BRT routes, the replacement TCM provides an even greater level of connectivity with existing bus and Bus Rapid Transit routes than Centerline. 8-minute BRT headways are consistent with those for Centerline.

Metrolink service will provide expanded accessibility to and from jobs in Orange County. The expanded Orange County-Riverside County service will reduce congestion on all routes carrying Inland Empire commuters to Orange County jobs.

The Centerline corridor traversed an area rich in housing to connect major business concentrations in downtown Santa Ana and Irvine including John Wayne Airport, Irvine industrial area north of the airport, and Irvine Business Center. The Replacement TCM projects also serve the cities of Irvine, Tustin and Santa Ana as well as greater Orange County. In the City of Santa Ana, the project corridor serves an area with median income below \$35,000. In Tustin and Irvine, median income is above \$60,000. Lower income Santa Ana residents have good access to job rich areas using either the BRT or Metrolink improvements included in the Replacement TCM.

Implementation Schedule. The replacement projects are all programmed for delivery by 2010, the date when Centerline would have been open for service.

Table 1 2010 Comparison of Centerline TCM and Replacement TCM: Boardings and Countywide Total Exhaust Emissions (tons per day) 2010		
	Centerline TCM	Replacement TCM
Daily Boardings	265,921	266,313
ROG	33.32	33.30
CO	297.77	297.55
NOx	63.45	63.44
PM-10	30.78	30.78

Table 2 2030 Comparison of Centerline TCM and Replacement TCM: Boardings and Countywide Total Exhaust Emissions (tons per day)		
	Centerline TCM	Replacement TCM
Daily Boardings	379,887	380,447
ROG	16.59	16.58
CO	113.12	113.03
NOx	18.74	18.74
PM-10	43.34	43.34

Financial Commitment. The replacement TCM projects will require a total of \$164.3 million. OCTA has programmed \$465 million of Measure M sales tax funds for the Centerline project. \$164 million of Measure M funds will now be reallocated from Centerline to the replacement TCM projects.

Summary of Centerline Replacement Project Fit with Required Replacement Procedures and Criteria

- **SCAG Review and Adoption.** The replacement TCM will be presented to SCAG's Transportation and Communications Committee for its recommendation on November 3, 2005. The Committee will make its recommendation on the replacement for SCAG's Regional Council adoption on November 3, 2005.
- **Interagency Consultation.** Interagency consultation is occurring at SCAG's publicly noticed Transportation Conformity Working Group meetings on July 26 and September 22, 2005. A final report on the status of interagency consultation will occur on October 25, 2005.
- **Equivalent Emission Reductions.** The four replacement projects provide equivalent or greater emission reductions for ROG, NOx, CO and PM-10 as presented in Tables 1 and 2.
- **Similar Geographic Area.** The replacement projects serve Orange County and provide accessibility in the same corridor as the original TCM. Improved BRT and Metrolink headways benefit the entire County.
- **Full Funding.** The \$164 million package of replacement projects will be fully funded by Measure M revenues currently programmed for the Centerline project.
- **Similar Time Frame.** Like the original Centerline TCM, the replacement projects will be completed and in operation by 2010.
- **Timely Implementation.** The replacement projects will be included in annual TCM Timely Implementation Reports that SCAG submits to FHWA.
- **Legal Authority.** OCTA has full legal authority to construct and operate the replacement projects; OCTA owns the bus fleet, and owns the Metrolink track, rolling stock and station infrastructure.
- **Implementation Commitment.** Most of the replacement projects are already committed to in the 2004 RT/RTIP. The remaining projects will be added to the RTP/RTIP through a formal amendment to be approved by SCAG's Regional Council on November 3, 2005.
- **AQMP-Consistent Methodology.** The methodology for analyzing emissions used AQMP consistent assumptions and modeling techniques.
- **Latest Planning Assumptions.** Technical analysis of the replacement projects was based on EMFAC 2002 emission factors and OCTAM 3.1 demographic and travel demand data.

IV Yorba Linda Station TCM Replacement

Yorba Linda Station TCM Description

The Yorba Linda Station project proposes to construct a new rail station, including 347 parking spaces for station use. The proposed Yorba Linda Station project is depicted on Maps 1 and 2.

Need for Yorba Linda Station Project Replacement. The City of Yorba Linda City Council voted, on March 16, 2004, to cancel this project. OCTA is thus seeking to replace this project before formally removing it from the RTP and RTIP.

Implication of Yorba Linda Station Project Replacement for 2004 RTP and RTIP. The Yorba Linda Station project is currently programmed as a TCM in the triennial period of the RTIP. The project is included in the 2004 RTP and 2004 RTIP as follows:

ORA 981103 In Yorba Linda, construct commuter rail station
and park-and-ride (347 spaces)

The Fullerton Station project is also currently programmed in the RTIP, but is not designated as a TCM:

ORA 020113 Fullerton Train Station –Parking Structure, Phase I and II.
Total of 500 spaces.

At the conclusion of the interagency consultation process, OCTA will request that SCAG amend the 2004 RTP and 2004 RTIP to remove the Yorba Linda Station project description, and designate the Fullerton Station project as a TCM. OCTA will submit the appropriate changes to SCAG by October 12, 2005, for inclusion in 2004 RTIP Amendment #10. The replacement project will be carried forward into the 2007 RTP update now being developed by SCAG.

The replacement project will also subsequently be included in annual TCM Timely Implementation Reports that SCAG submits to FHWA to demonstrate that the projects are being implemented on time in fulfillment of the AQMP TCM requirements.

Recommended Yorba Linda Station Replacement Project

OCTA proposes to use the Fullerton Station Parking Structure project as a substitution for the Yorba Linda Station 347-space parking project. The Fullerton Station Parking Structure proposes to construct a new parking facility to include 500 new spaces for transit/Metrolink station use, as located on Map1. The Fullerton project will bring about, at minimum the same air quality benefits if not more.

The Yorba Linda Station project provided only 347 parking spaces, whereas the Fullerton Station Parking Structure provides for 500 additional spaces at a well established station.

Technical Analysis

This technical analysis documents the evidence that the Yorba Linda Station replacement TCM meets the substitution criteria spelled out in the AQMP/SIP: equivalent emissions, similar geographic service area, similar implementation schedule, and demonstrated financial commitment to complete the project on time. The Yorba Linda Station TCM was modeled in conjunction with the Centerline TCM Replacement. The modeling procedure identified below was used for both the Centerline and Yorba Linda Station Replacement modeling.

Methodology for Analyzing Original Project and Replacement. The Yorba Linda Station TCM and the proposed Fullerton Station TCM Replacement project are compared in terms of emissions reduced. Emission reductions were calculated based on average trip lengths for those trips removed from roads as measured by utilization of the train station parking facilities. OCTA's OCTAM 3.2 travel demand model, which is consistent with SCAG's regional model, provided travel information on both TCMs. EMFAC 2002 emission factors were applied.

Emission Analysis. Based on the results of the modeling described above, Tables 1 and 2 compare the Yorba Linda Station TCM and proposed replacement TCM project emission profiles for 2010 and 2030. The Fullerton Station parking structure provides greater emission reductions than the proposed Yorba Linda Station parking facility due to the greater utilization of the Fullerton structure.

Geographic Area/Service Area/Accessibility. The replacement TCM serves the same northeast Orange County subregion as the original Yorba Linda Station TCM.

Implementation Schedule. The Fullerton Station replacement TCM will be completed and open for service by 2010, the same timeframe as the original Yorba Linda Station TCM.

Financial Commitment. The 2004 RTIP programs the Fullerton Station project with \$9.3 million in city, STP-IIP and STP-RIP funds. In May 2005, the California Transportation Commission (CTC) allocated an additional \$5.0 million of STIP-IIP funds to this project, for a total budget of \$14.3 million. The project is now fully funded and ready to be implemented.

Table 1
2010 Comparison of Yorba Linda Station TCM and Fullerton Station Replacement TCM and Countywide Exhaust Emissions Reductions (grams per day)

	Yorba Linda Stn.	Fullerton Stn. Replacement
Parking Spaces	347	500
Parking Utilization	59	332
Park & Ride	58	277
Kiss & Ride	1	55
ROG	-30.98	-174.30
CO	-1,318.30	-7,418.21
NOX	-71.45	-402.5
PM-10	-3.72	-20.92

Table 2
2030 Comparison of Centerline TCM and Replacement TCM Utilization and Countywide Exhaust Emissions Reductions (tons per day)

	Yorba Linda Stn.	Fullerton Stn. Replacement
Parking Spaces	347	500
Parking Utilization	84	474
Park & Ride	83	395
Kiss & Ride	1	79
ROG	-5.88	-33.18
CO	-456.88	-2,578.09
NOX	-19.99	-112.81
PM-10	-5.29	-29.86

Summary of Yorba Linda Station TCM Replacement Project Fit with Required Procedures and Criteria

- **SCAG Review and Adoption.** The replacement TCM will be presented to SCAG's Transportation and Communications Committee for its recommendation on November 3, 2005, followed by SCAG's Regional Council adoption on November 3, 2005.
- **Interagency Consultation.** Interagency consultation will occur at SCAG's publicly noticed Transportation Conformity Working Group meeting on September 22, 2005. A final interagency consultation report on the status of the replacement will occur on October 25, 2005.
- **Equivalent Emission Reductions.** The Fullerton Station replacement TCM provides greater reductions of ROG, NO_x, CO, and PM-10 emissions than the original TCM.
- **Similar Geographic Area.** The replacement project serves the same northeast Orange County subregion and population as the original TCM.
- **Full Funding.** The \$14.3 million project is fully funded and ready to implement.
- **Similar Time Frame.** The project will be completed by 2010, the same as the original TCM.
- **Timely Implementation.** The replacement project will be included in annual TCM Timely Implementation Reports that SCAG submits to FHWA.
- **Legal Authority.** OCTA has full legal authority to construct and operate the replacement projects; OCTA owns and operates the Metrolink track, rolling stock and station infrastructure.
- **Implementation Commitment.** The replacement project is already committed to in the 2004 RT/RTIP.
- **AQMP-Consistent Methodology.** The methodology for analyzing emissions used AQMP consistent assumptions and modeling techniques.
- **Latest Planning Assumptions.** Technical analysis of the replacement projects was based on EMFAC 2002 emission factors and OCTAM 3.1 demographic and travel demand data.

Appendix A: Technical Documentation

Emission Model Runs

Socioeconomic Data Maps

2010 Centerline TCM Emissions

Centerline Projects Year 2010						Orange County Average					
Version : Emfac2002 V2.2 Apr 23 2003 ** WIS Enabled **											
Run Date : 09/10/05 03:32:50											
Scen Year : 2010 -- Model Years: 1985 to 2010											
Season : Summer											

	Vehicle	VMT	Starts	ROG	CO	NOX	PM10Ex	Tire W	Brake W	PM10SUM	
Passenger Car	1236400	38306	7745540	15.14	142.34	11.27	0.47	0.34	0.53	1.34	
Light-D-Trk1	244730	7354	1519470	4.61	39.67	3.08	0.10	0.06	0.10	0.27	
Light-D-Trk2	335918	10320	2114450	4.75	47.78	5.48	0.27	0.09	0.14	0.51	
Mediu-D-Trk	140753	4242	860857	2.78	25.55	3.38	0.12	0.04	0.06	0.21	
Motor Cycle	31007	228	62008	1.10	8.46	0.29	0.01	0.00	0.00	0.01	
L&M VEHICLE	1988808	60450	12322125	28.38	263.80	23.50	0.97	0.53	0.83	2.34	
L-Heavy-D T1	20806	984	620714	0.90	3.78	2.14	0.01	0.01	0.01	0.04	
L-Heavy-D T2	8220	354	205342	0.40	1.57	1.29	0.01	0.00	0.00	0.02	
M-Heavy-D T	22775	1113	731434	1.22	8.50	9.08	0.22	0.01	0.02	0.25	
H-Heavy-D T	14429	2057	134566	1.73	11.54	23.35	0.38	0.08	0.03	0.49	
HD TRUCK	66230	4508	1692056	4.25	25.39	35.86	0.62	0.10	0.06	0.80	
Line Haul V	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
School Bus	1685	62	6739	0.07	0.78	0.72	0.03	0.00	0.00	0.03	
Urban Bus	1963	214	7851	0.48	4.21	2.76	0.05	0.00	0.00	0.05	
Motor Home	23246	292	2326	0.13	3.57	0.58	0.01	0.00	0.00	0.01	
ALL VEHICLE	2081940	65528	14031100	33.32	297.74	63.43	1.67	0.65	0.91	3.23	

Note :
I and M program in effect
Emissions in tons per day, VMT in 1000-miles
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2010 Centerline Replacement TCM Emissions

Centerline Replacement Projects Year 2010

Orange County Average

Version : Emfac2002 V2.2 Apr 23 2003 ** WIS Enabled **
 Run Date : 09/09/05 14:14:53
 Scen Year: 2010 -- Model Years: 1965 to 2010
 Season : Summer

	Vehicle	VMT	Starts	RDG	CO	NOX	PM10EX	Tire W	Brake W	PM10SUM
Passenger Car	1235610	38281	7740550	15.13	142.21	11.26	0.47	0.34	0.53	1.34
Light-D-Trk1	244573	7349	1518490	4.61	39.64	3.08	0.10	0.06	0.10	0.27
Light-D-Trk2	335701	10313	2113080	4.75	47.74	5.47	0.27	0.09	0.14	0.50
Mediu-D-Trk	140662	4240	680089	2.78	25.52	3.38	0.12	0.04	0.06	0.21
Motor Cycle	30987	228	61968	1.10	8.46	0.29	0.01	0.00	0.00	0.01
L&M VEHICLE	1987533	60411	12314177	28.37	263.57	23.48	0.97	0.53	0.83	2.33
L-Heavy-D T1	20806	984	620714	0.90	3.78	2.14	0.01	0.01	0.01	0.04
L-Heavy-D T2	8220	354	205342	0.40	1.57	1.29	0.01	0.00	0.00	0.02
M-Heavy-D T	22775	1113	731434	1.22	8.50	9.08	0.22	0.01	0.02	0.25
H-Heavy-D T	14429	2057	134566	1.73	11.54	23.35	0.38	0.08	0.03	0.49
HD TRUCK	66230	4508	1692056	4.25	25.39	35.66	0.62	0.10	0.06	0.80
Line Haul V	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
School Bus	1685	62	6739	0.07	0.78	0.72	0.03	0.00	0.00	0.03
Urban Bus	1963	214	7851	0.48	4.21	2.76	0.05	0.00	0.00	0.05
Motor Home	23246	292	2326	0.13	3.57	0.58	0.01	0.00	0.00	0.01
ALL VEHICL	2080660	65489	14023200	33.30	297.51	63.41	1.67	0.65	0.91	3.23

Note :
 I and M program in effect
 Emissions in tones per day, VMT in 1000-miles
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2030 Centerline TCM Emissions

Centerline Projects Year 2030				Orange County Average						
Version : Emfac2002 V2.2 Apr 23 2003 ** WIS Enabled **										
Run Date : 09/10/05 00:54:21										
Scan Year: 2030 -- Model Years: 1985 to 2030										
Season : Summer										

	Vehicle	VMT	Starts	ROG	CO	NOX	PM10EX	Tire W	Brake W	PM10SUM
Passenger Car	1791910	54085	11077300	5.47	45.26	2.96	0.69	0.48	0.75	1.91
Light-D-Trk1	370215	10938	2256530	2.06	12.24	0.88	0.15	0.10	0.15	0.39
Light-D-Trk2	508206	14869	3090600	3.49	23.70	2.01	0.44	0.13	0.21	0.78
Mediu-D-Trk	213699	6201	1293260	1.74	12.96	1.15	0.19	0.05	0.09	0.33
Motor Cycle	38170	284	76332	1.10	6.49	0.31	0.01	0.00	0.00	0.01
L&M VEHICLE	2922200	86357	17794022	13.86	100.65	7.31	1.48	0.76	1.20	3.42
L-Heavy-D T1	23623	857	693472	0.91	1.69	1.18	0.01	0.01	0.01	0.03
L-Heavy-D T2	9294	362	227307	0.22	0.54	0.42	0.01	0.00	0.01	0.02
M-Heavy-D T	25807	1120	818681	0.54	2.85	1.75	0.11	0.01	0.02	0.14
H-Heavy-D T	16338	2187	102672	0.77	4.62	5.51	0.17	0.09	0.03	0.28
HD TRUCK	75062	4526	1842132	2.44	9.70	8.84	0.30	0.11	0.07	0.47
Line Haul V	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
School Bus	2163	80	8652	0.05	0.38	0.56	0.02	0.00	0.00	0.03
Urban Bus	2520	275	10080	0.23	2.22	1.85	0.04	0.00	0.00	0.04
Motor Home	35627	447	3564	0.02	0.16	0.16	0.00	0.01	0.01	0.02
ALL VEHICL	3037580	91685	19658500	16.59	113.11	18.73	1.83	0.89	1.27	3.99

Note :
I and M program in effect
Emissions in tones per day, VMT in 1000-miles
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2030 Centerline Replacement TCM Emissions

Centerline Replacement Projects Year 2030

Orange County Average

Version : Emfac2002 V2.2 Apr 23 2003 ** WIS Enabled **
 Run Date : 09/09/05 15:57:08
 Scan Year: 2030 -- Model Years: 1985 to 2030
 Season : Summer

	Vehicle	VMT	Starts	ROG	CO	NOX	PM10EX	Tire W	Brake W	PM10SUM
Passenger Car	1790750	54050	11070200	5.47	45.22	2.96	0.68	0.48	0.75	1.91
Light-D-Trk1	369976	10931	2255070	2.06	12.23	0.88	0.15	0.10	0.15	0.39
Light-D-Trk2	507877	14859	3088610	3.49	23.68	2.01	0.44	0.13	0.21	0.78
Mediu-D-Trk	213561	6197	1292420	1.74	12.94	1.15	0.19	0.05	0.09	0.33
Motor Cycle	38145	264	76283	1.10	6.49	0.31	0.01	0.00	0.00	0.01
L&M VEHICLE	2920309	86301	17782583	13.86	100.56	7.31	1.47	0.76	1.20	3.42
L-Heavy-D T1	23623	557	693472	0.91	1.69	1.18	0.01	0.01	0.01	0.03
L-Heavy-D T2	9294	362	227307	0.22	0.34	0.42	0.01	0.00	0.01	0.02
M-Heavy-D T	25807	1120	818681	0.54	2.85	1.75	0.11	0.01	0.02	0.14
H-Heavy-D T	16338	2187	102672	0.77	4.62	5.51	0.17	0.09	0.03	0.28
HD TRUCK	75062	4526	1842132	2.44	9.70	8.84	0.30	0.11	0.07	0.47
Line Haul V	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
School Bus	2163	80	8652	0.05	0.38	0.56	0.02	0.00	0.00	0.03
Urban Bus	2520	275	10080	0.23	2.22	1.85	0.04	0.00	0.00	0.04
Motor Home	35627	447	3564	0.02	0.16	0.16	0.00	0.01	0.01	0.02
ALL VEHICL	3035680	91629	19647000	16.58	113.02	18.73	1.83	0.89	1.27	3.99

Note :
 I and M program in effect
 Emissions in tons per day, VMT in 1000-miles
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CenterlineTCM/Centerline TCM Replacement Bus Emission Calculations

Bus/Train/Additional Emissions			
		Tons/Day	Tons/Day
Centerline		2010	2030
	ROG	0.00	0.00
	NOX	0.02	0.01
	CO	0.03	0.01
	PM10	0.00	0.00
	PM10-Tire	0.00	0.00
	PM10-Brake	0.00	0.00
		Tons/Day	Tons/Day
Centerline- Replacement		2010	2030
	ROG	0.00	0.00
	NOX	0.03	0.01
	CO	0.04	0.01
	PM10	0.00	0.00
	PM10-Tire	0.00	0.00
	PM10-Brake	0.00	0.00

Yorba Linda Station TCM/Fullerton Station TCM Replacement Emissions

2010 Emissions Reductions by Metrolink Station (Grams/Day)

	Yorba Linda TCM	Fullerton Replacement TCM
ROG	-30.98	-174.30
NOx	-71.45	-402.05
CO	-1318.30	-7418.21
PM-10	-3.72	-20.92
PM-10 Tire	-3.30	-18.59
PM-10 Brake	-5.37	-30.21

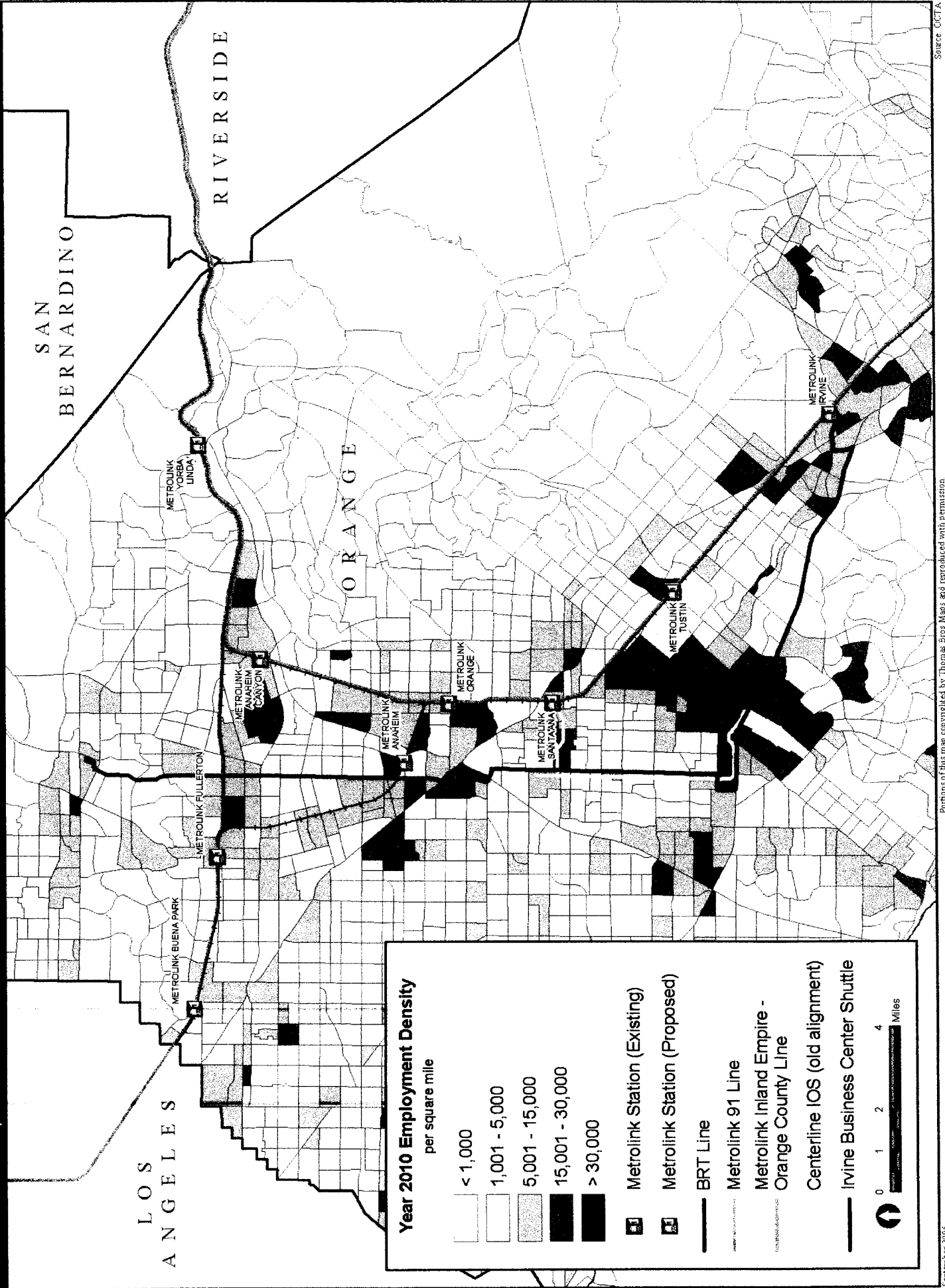
2030 Emissions Reductions by Metrolink Station (Grams/Day)

	Yorba Linda TCM	Fullerton Replacement TCM
ROG	-5.88	-33.18
NOx	-19.99	-112.81
CO	-456.88	-2578.09
PM-10	-5.29	-29.56
PM-10 Tire	-4.70	-26.54
PM-10 Brake	-7.64	-43.13



Source: OCTA

Transportation Control Measures - 2010 Employment Density Centerline Replacement



Transportation Control Measures - 2000 Median Household Income Centerline Replacement

